

TAXONOMIC IDENTITY OF *LEUCAENA LEUCOCEPHALA* (LAM.)  
DE WIT, WITH A NEW COMBINATION.

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A considerable amount of agronomic research has been produced about *Leucaena leucocephala* (Lam.) de Wit (1961), well known in the tropics both as a weed and for its multiple uses (Dijkman, 1950; National Academy of Science, 1977). De Wit (1961) published this combination based on a description by Lamarck (1783), of which a type specimen exists in Lamarck's Herbarium in Paris (P.LA). The validation of Lamarck's epithet, in replacement of the Linnaean epithet *glauca*, generated a series of controversial papers (Isely, 1986, and references therein); however, the systematic identity of the binomial requires further clarification.

A native to Mexico and Central America, this species was introduced by the Spaniards to the Philippine Islands during the XVI century; from there it expanded to its present pantropical distribution. Study of the Mexican populations of *L. leucocephala* led to the recognition of two distinct, but closely related taxa, and subspecific rank was proposed for them (Zárate P., 1982).

Confusion exists as to the correct names of the three recognized horticultural varieties: 'Hawaii', 'Salvador' and 'Peru'. The 'Hawaii' type was characterized from naturalized Hawaiian populations as a ramose shrub, flowering in all seasons, pantropically established as a successful colonizer (Brewbaker, 1975). The descriptions of *L. leucocephala* from Hawaii (Degener, 1946), as well as from the Yucatan Peninsula and the Tehuantepec Isthmus (Zárate P., 1982), clearly match Lamarck's (1783) *Mimosa leucocephala*.

The second agronomic type, known as 'Salvador' or 'Hawaiian Giant', despite the fact that it originated in Mexico (Brewbaker, 1975), is a fast growing, tall tree, flowering annually. The name 'Salvador', alluding to Central American origin, led to confusion with *L. salvadorensis* (Brewbaker, 1978, 1984), a different species (Zárate P., 1987). Both the 'Salvador' and 'Peru' types, the latter characterized by its ramose, arborescent habit, belong to a distinct taxon distributed in Mexico and Central America at altitudes from sea level to ca. 1000 m. It was described by J.N. Rose (1897) as *L. glabrata*, and is thus combined: *L. leucocephala*

(Lam.) de Wit subsp. *glabrata* (Rose) Zárate P., *comb. et stat. nov.*, *L. glabrata* Rose, *Contr. U.S. Natl. Herb.* 5:140-141, 1897. Mexico: Guerrero: 'near Acapulco', Palmer 368 (Holotype, US; Isotypes, A!, GH!)

Both subspecies are cultivated for their edible seeds in Mexico, where their domestication probably occurred independently. *L. leucocephala* subsp. *glabrata* predominates as a cultigen, while subsp. *leucocephala* is an isolated domesticate (Zárate P., unpublished). Despite this, it is the latter subspecies that is now found naturalized in the Philippines, to where it must have been carried by the colonists; the explanation for this is not clear. It could have been an accidental dispersal, e.g. with the sand used as ballast in the ship journey from Mexico, or perhaps both subspecies were introduced, and selection was the cause for the establishment of subsp. *leucocephala*, better adapted to calcareous substrates such as seashores and coral reefs. In commercially propagated lineages (e.g. 'PERU' & K67), segregation for pubescence of legumes and leaves has been observed (Soto & Zárate P. 52, 53 MEXU). In the Tehuantepec Isthmus region subsp. *leucocephala* has atypical glabrescent legumes but the usual canescent leaf buds and ciliate leaflets. These facts suggest that despite the species' known self-compatibility (Brewbaker, 1982), gene exchange between the subspecies is possible and could have had a role in the development of the naturalized taxon, as well as in artificial selection of cultigens both recently and during the early domestication of the species.

The taxa may be distinguished as follows:

Small trees or shrubs 1-6 m tall. Foliar buds canescent; petiolar gland 1.5-2.5 mm long; pinnae 6-9 pairs; leaflets 9-18 pairs, 9-12 mm long, ciliate. Flowering buds canescent. Legume 13-16 x 1.2-1.5 cm, the stipe 7-10 mm long, velutinous or glabrescent. Seeds 5-8 mm long, 4-5 mm wide. Flowering in response to water.

..... subsp. *leucocephala*

Trees or shrubs 3-12 m tall, or taller. Foliar buds glabrate; petiolar gland 1-4 mm long; pinnae 3-8 pairs; leaflets 11-24 pairs, 8-15 mm long, glabrous. Flowering buds glabrous. Legume 11-18 x 1.2-2.3 cm, the stipe 10-20 mm long, glabrous. Seeds 6-10 mm long, 3-6 mm wide. Flowering once a year.

..... subsp. *glabrata*

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